

REMARKS

In response to the Official Communication dated January 9, 2004, Applicant presents the following remarks in an effort to place the application in condition for allowance. Consideration of the following remarks is respectfully requested. Claims 1-20 are currently pending in the present application.

Status of the Case

Claims 1-20 have been rejected under 35 USC §103(a) as being unpatentable over Plonsky (US 5,049,857) in view of Chieu et al. (US 5,777,561).

The claims have been amended to clarify that in the claimed invention variation of the intensity of at least one of the magnetic fields varies the intensity of that field so that only one tag is detected within the varied field. This was inherent in the claim as originally presented, but has been expressly noted solely to correct a potential ambiguity in the claim to clarify the matter for the Examiner. Support can be found throughout the Specification as originally filed, and particularly in Figures 2-5 and the accompanying text. No narrowing amendments have been made and no new matter has been added. We respectfully request that the enclosed amendments be entered because they place the claims in better condition for allowance or appeal.

Rejection over Plonksy in view of Chieu et al.

We respectfully traverse the rejection of Claims 1-20 over Plonsky in view of Chieu et al. (U.S. Patent No. 5,406,262). The Examiner acknowledges that Plonsky fails to teach or suggest

varying an intensity of at least one electromagnetic field so that only one electronically detectable tag is detected in the electromagnetic field that is varied in intensity.

We note with appreciation the Examiner's inclusion of a definition of "electromagnetic field" in helping to better understand the disclosure of Chieu et al. We further respectfully note also that the solicited claims vary the intensity of the electromagnetic field.

The intensity of an electromagnetic field, as that term is commonly understood in the art and as it is clearly used in the Specification, is defined as "a measure of the amount of energy transmitted." (Please see the attached reference from the Web site at www.dictionary.com.) That is, varying the intensity of the electromagnetic field, as in the claimed invention, varies the amount of energy transmitted by the source of the field. We respectfully note that this is not the same as variations in the strength of an electromagnetic field that occur at different distances from the source of the electromagnetic field.

As an example, in Chieu et al., even if the total energy (i.e., intensity) of an electromagnetic field may remain constant and unvaried, the strength of that electromagnetic field at different distances from the source of the field may vary (producing a returned signal of varying strength). This is not the claimed invention, however.

First, we respectfully note that Col. 7, lines 5-10, of Chieu et al. is discussing the variation of intensity of a noise reference signal that allows the receiver to establish a threshold signal for comparing the strength of the signal received from each group of tags. This signal is not used to communicate with and detect individual tags, however. Instead, a different electromagnetic field, which is unvaried in intensity, is used for communication and detection of the tags, as further explained below.

In the text cited by the Examiner, Chieu et al. are merely indicating that the intensity of the noise reference signal may be varied to so that groups of tags having different strengths of the returned signal may be detected by the base station using a different signal – an electromagnetic field that is not varied in intensity.

This is further clear from Col. 7, lines 14-22, which states that:

“At step 510, the base station transmits a modulated signal to the base station antenna, and hence to the tags, instructing the tags to respond and return a modulated signal in a time period (time slot) defined by the tag communication protocol. At step 520, the base station transmits a carrier wave to the base station antenna. The carrier wave has a steady 40 KHz amplitude modulation which is less than that required to communicate with the tags.” [Emphasis added.]

The separate reference signal is necessary due to signal leakage from the transmitter into the receiver (i.e., noise) that may interfere with the identification of signals received from the tags by the base station using the different electromagnetic field. Chieu et al. does not vary the intensity the steady reference signal in order to detect a tag within that signal’s range.

This is clear from Col. 6, lines 44-49, which states that:

“The steady, weak modulation frequency is not strong enough to influence the tag, but is strong enough so that the steady, weak modulated signals reflected from the antenna 185 and leaked around the hybrid 170 can be measured by the receiver and can be used to set a level for discriminating amongst the tag signals.” [Emphasis added.]

In Chieu et al., the system produces a separate electromagnetic magnetic field to communicate and detect the tags based upon the different strengths of the received tag signals.

Moreover, if there are multiple tags in the field, as in the claimed invention, then Chieu et al. require the use of a different multiple tag reading procedure that is unrelated to the claimed invention to detect the individual tags in the group. This multiple tag procedure is identified in Col. 7, lines 47-64:

“If more than one tag is in the field and the tag signals interfere with each other so that they can not be read at step 570, a multiple tag reading protocol is instituted in order to read the multiple tags at step 580....The most preferred embodiment of the invention uses a protocol in which the tags are commanded to return an identification signal in a particular time slot, but the same invention may be used where the tags are commanded to return information in any defined time periods.” [Emphasis added.]

Thus, in Chieu et al., one tag is detected from at least two tags using an electromagnetic field that does not vary in intensity by returning an identification signal, and not by varying the intensity of the electromagnetic field. This is irrespective of the variation in strength of the received signals from different distances.

We respectfully note that the text cited by the Examiner in Col. 8, lines 53-67, refers to a different embodiment of the system disclosed in Chieu et al. that is even farther away from the claimed invention, namely the detection of groups of tags based upon the polarization of the received signals. As with the previous embodiment, the Chieu system communicates with the tags using an electromagnetic field with unvaried intensity and tells them to shut down one by one, using the previously mentioned multiple tag procedure to detect each tag.

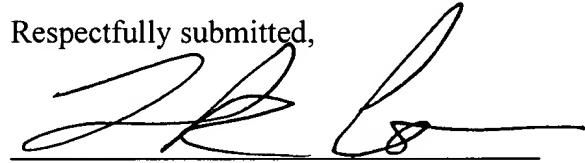
In sharp contrast, the claimed invention varies the intensity of an electromagnetic field to detect one tag in that field from at least two or more tags. As illustrated in Figures 2-6 and discussed in the Specification, in a preferred embodiment of the claimed invention, the intensity of at least one of the electromagnetic fields may be changed so that only one tag is encompassed by that field.

We respectfully submit that the claimed invention is nowhere taught or suggested in either Plonsky or Chieu et al., whether taken alone or in hypothetical combination. As acknowledged by the Examiner, Plonsky nowhere teaches or suggests varying the

electromagnetic field to detect a tag. Chieu et al. fails to satisfy the inadequacies of Plonsky because 1) the variation of the steady reference signal is not used to detect any tags, 2) the electromagnetic field that is used to communicate with the tags is not varied in intensity to do so, and 3) one tag in the field may be detected from two or more by using an information signal and not by the variation of any electromagnetic field itself. Accordingly, we respectfully request that the rejection under 35 USC §103(a) be withdrawn.

For the reasons set forth above, we respectfully submit that all of the solicited claims are in proper condition for allowance, which action is respectfully requested.

Respectfully submitted,



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